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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/432,618	11/03/1999	FREDERICK J. ROEBER	99-401	1298

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VERIZON CORPORATE SERVICES GROUP INC.
C/O CHRISTIAN R. ANDERSEN
600 HIDDEN RIDGE DRIVE
MAILCODE HQEO3H14
IRVING, TX 75038

EXAMINER	
KENDALL, CHUCK O	

ART UNIT	PAPER NUMBER
2122	

DATE MAILED: 02/10/2004 19

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/432,618	ROEBER ET AL.	
	Examiner	Art Unit	
	Chuck O Kendall	2122	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 November 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15 and 28-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15 and 28-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *Final Rejection*.

DETAILED ACTION

Remarks

1. This Office Action is the response to the communication received on November 17, 2003. Reconsideration of the instant application is requested by Applicant. All such supporting documentation has been placed of record in the file. Claims 1 – 15 & 28 – 44 are pending.

   a. Previously claims 1 - 5, 12 - 15, 32 - 35 & 38 - 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Rees et al. USPN 5,748,878.

   b. Claims 6 - 9 were rejected under 35 U.S.C. 103(a) as being unpatentable over Rees et al. USPN 5,748,878 in view of Nouri et al USPN 6,073,255, and Claims 10, 11, 36 & 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rees et al. USPN 5,748,878 in view of Hershey et al. USPN 5,375,070 hereinafter Hershey.

   c. In this action claims 1 – 15 & 28 – 44, still remain rejected under the same grounds as stated above and in previous office action.

   d. In arguing Applicant asserts as stated in page 11, 2nd paragraph of response dated November 17, 2003, that Rees does not show a ***" sync control unit synchronizing the time stamp clock to the sync signal received by the sync interface", as well as "event collection card receiving software related events from target program".***

e. Examiner has provided a copy of previous rejection below for completeness.

Claim Rejections - 35 USC § 102

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 - 5, 12 - 15, 32 - 35 & 38 - 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Rees et al. USPN 5,748,878.

Regarding claims 1 & 28, Rees anticipates a system (Col.16: 45 – 18: 20), and method (Col. 18: 20 – 22: 47), for monitoring the operation of computer program, by collecting related events relating to the performance of a plurality of target programs, each program running on a respective target processor, and each target processor being located on a separate system bus, the system comprising:

a plurality of event collection cards each receiving events (3: 35 - 45, see data tags), from a respective one of the plurality of target programs (4:1 – 10, and 6: 43 – 56 also see Col. 19: 45 – 50), wherein each of the plurality of event collection cards and the respective one of the target programs is installed on the same system bus, and wherein each event collection card includes:

a time stamp clock for providing a time stamp when each event is received (fig3, 4.8); an event memory for storing the received events (fig3, 4.6 and 4.4);

a sync interface unit for receiving a sync signal (fig 7, 180);

a collection control unit for time stamping the collected events according to the time stamp clock synchronized to the sync signal, and for storing the time stamped events in the event memory, and for sending the collected software related events to a host computer the monitors the performance of the target program based on the

collected events (3: 20 - 40, 5: 55 - 65,11:35 – 55, as well as FIG.7. 180 and associated text Col.12: 10 – 20).

Regarding claims 2 & 29, the system of claim 1, wherein the sync interface unit periodically receives the sync signal, and wherein the sync control unit periodically synchronizes the time stamp clock by setting the time stamp clock to a preset value upon receipt of the sync signal (fig7).

Regarding claims 3 & 30, the system of claim 2, wherein the sync control unit increments the time stamp clock to the preset value when the time stamp clock has not reached the preset value when the sync signal is received (12:25 - 40).

Regarding claim 4 & 31, the system of claim 2, wherein the sync control unit stops the time stamp clock when the time stamp clock reaches the preset value before the sync signal is received (12:25 - 40 for stop see latches at appropriate time, the latch is analogous to open and closing).

Regarding claim 5, wherein one of the plurality of event collection cards acts as a master card and at least one other event collection card including a slave card that synchronizes the time stamp clock of the slave card to the time stamp clock of the master card (12:35-40, for master and slave see sync and under control of control circuit).

Regarding claim 12, the system of claim 1, wherein:

the collection control unit initializes the corresponding target processor prior to collecting events by assigning an address range to the target processor, wherein the target processor uses the assigned addresses when sending events to the event collection card [6:40-45].

Regarding claim 13, the system of claim 12, wherein:

the collection control unit determines an identification value by decoding the address to which the respective target processor has sent the event, wherein the identification value corresponds to the target program corresponding to the respective target processor (fig 4, 132).

Regarding claim 14, the system of claim 13, wherein:

the collection control unit time stamps the identification value and stores the time stamped identification value in the event memory (fig3, 4.6 and 4.4).

Regarding claim 15, the system of claim 1, wherein the collection control unit updates a memory count for each time stamped event stored in the event memory, wherein the event collection card sends the collected events to a host computer for processing, wherein the event collection card further includes (fig3, 4.6 and 4.4,4.8):

a processing unit for sending the collected events to the host computer according to the memory count (fig,7).

Regarding claim 32, see claim 5 for reasoning.

Regarding claim 33, see claim 6 for reasoning.

Regarding claim 34, see claim 8 for reasoning.

Regarding claim 35, see claim 9 for reasoning.

Regarding claim 38, see claim 12 for reasoning.

Regarding claim 39, see claim 13 for reasoning.

Regarding claim 40, see claim 5 for reasoning.

Regarding claims 41, the system of claim 1, wherein the time stamp clock of each of the plurality of event collection cards are synchronized together (Col.12: 27 – 30).

Regarding claim 42, the system of claim 1, comprising: a clock source for sending the sync signal to each of the plurality of even collection cards (Col.12: 10 – 30).

Regarding claim 43, the method version of claim 41, see rationale as previously discussed above.

Regarding claim 44, the method version of claim 42, see rationale as previously discussed above.

4. Claims 6 - 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rees et al. USPN 5,748,878 as applied in claim 1 and claim 28 in view of Nouri et al USPN 6,073,255.

Regarding claim 6, Rees discloses, all the claimed limitations as applied in claim 1 and claim 28. Rees doesn't explicitly control unit receives a start request requesting

that the collection control unit begin collecting events and whether the event collection card is a master card or a slave card. However, Nouri does disclose this limitation [Nouri, 11:23 - 30, 13:25]. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Rees and Nouri, because sending requests or signals during synchronization makes syncing systems together more efficient.

Regarding claim 7, as in claim 1, wherein the plurality of event collection cards are daisy-chain connected to one another [Nouri, 11:35 - 40, see point to point serial link, see fig2].

Regarding claim 8, the system of claim 1, wherein the sync interface unit receives the sync signal from a time-based global positioning system [Nouri, 10:64 - 11:1-15, see Global network address].

Regarding claims 9, the system of claim 1, wherein the sync interface unit receives the sync signal from an atomic clock [Nouri, 10:64 -11:1 -15, see Global network address, interprets atomic clock to be the clock signal].

5. Claims 10, 11, 36 & 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rees et al. USPN 5,748,878 in view of Hershey et al. USPN 5,375,070 hereinafter Hershey.

Regarding claims 10 & 36, Rees discloses all the claimed limitation as applied in claim 1 and claim 28. Rees doesn't explicitly disclose a bus isolation unit for allowing the event collection bus and the local bus to operate in parallel. However, Hershey does disclose this feature in a similar configuration [Hershey, 12:30]. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Rees with Hershey to implement the instant claimed invention because, both deal with event logging (analogous prior art) and provide similar solutions to the same problem.

Regarding claim 11, wherein the bus isolation unit allows the processing unit to access the event memory via the local bus and the event collection bus, see (Rees, fig 3).

Regarding claim 37, see reasoning in 11.

Response to Arguments

Applicant's arguments filed 11/17/2003 have been fully considered but they are not persuasive overcome the previous rejection.

Argument (1), In arguing Applicant states that in claim 1 & 28, Rees doesn't disclose a "**sync control unit syncing stamp clock to signal**". Examiner believes Rees does disclose this feature.

Response (1), As set forth above in claim 1, in Rees FIG.7, item # 180 and associated text in Col.12: 10 – 20, shows "*A clock and control circuit 180 interfaces with the time stamp generator 102 (FIG. 3), a clock signal received from the probe tip 12 and control bits from the data reduction processor 114. The clock and control circuit 180 then controls the operation of other components in the tag preprocessor 100*". also see Col:12: 27 – 30 "*Finally, a synch latch 198 latches in the time stamp at the appropriate time under control of the clock and control circuit 180 so that the time stamp is synchronized to the currently captured tag.*" Examiner believes this portion of Rees to be equivalent to Applicants limitation.

Argument (2), Applicant also asserts that Rees does not show "...**event collection card receiving software related events from target program**... ". Examiner believes Rees teaches this limitation as well.

Response (2), In Rees Col. 6: 43 – 56 " *The probe tip 12 then captures the*

tag value currently on the data bus. As a result, the currently captured tag value indicates the location in source code 60 currently being executed. Moreover, the system 10 monitors the execution of the software in the target T in essentially real time since the probe 20 receives each of the tag values as it is captured and performs various functions using the tag value. For example, for some software analysis functions, the probe 20 associates an execution time with the tag value so that the execution time between a pair of tag statements can be determined.". As recited Examiner interprets tags to be the collection cards. And as taught in Col. 19: 45 – 50 "*...said data tags being associated with a respective control tag and having a data field that provides information about an event identified by the control tag with which said data tag is associated.* ", the tags contain event information, which is equivalent to Applicant's "*event collection card*".

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence Information

7. Any inquires concerning this communication or earlier communications from the examiner should be directed to Chuck O. Kendall who may be reached via telephone at (703) 308-6608. The examiner can normally be reached Monday through Friday between 8:00 A.M. and 5:00 P.M. est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam *can be* reached at *(703) 305-4552.*

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

For facsimile (fax) send to central FAX number 703-872-9306 *and* 703-7467240 draft.

Chuck O. Kendall

Software Engineer Patent Examiner

TUAN DAM
SUPERVISORY PATENT EXAMINER